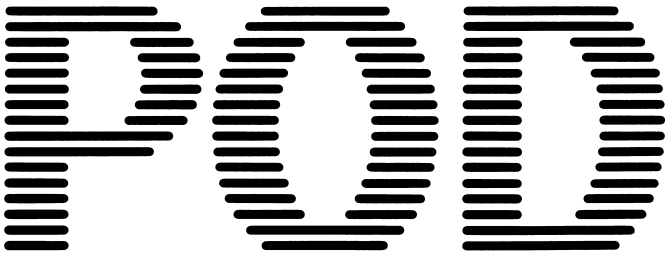
FUJI ELECTRIC

FUJI UG □ 20 SERIES PROGRAMMABLE OPERATION DISPLAY



USER'S MANUAL <REFERENCE>
Additional Specifications

TYPE: UG00S-CW

Preface

Thank you very much for purchasing the FUJI UG520/420/320/221/220 Series Programmable Operation Display (POD) (hereinafter called “UG □ 20 Series” or “POD”). This manual describes only the functions newly added to the screen editor UG00S-CW Ver. 2.50 (Ver. 2.5.0.0) which are not described in the Reference Volume of the UG Series User’s Manual (FEH351a). Please read this manual together with the Reference Volume of the UG Series User’s Manual (FEH351a).

This manual is an English version based on the Japanese user’s manual (No. FH351b-2)

[Notes]

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(2) The contents of this manual, including the specifications, are subject to change for improvement without notice.
(3) This manual was prepared with utmost care. However, if you find any ambiguity, errors, etc., please contact any of our sales offices that are listed at the end of this manual. In so ding, please tell the manual number shown on the cover of this manual.

[About trade marks and others]

* MS-DOS is a trademark of U.S.-based Microsoft Corporation.
* PC9801/9821-Series computers are products of NEC.
* The name of each device used in the programmable controller (PLC) is the product name of its manufacturer.
* Product names used in this manual are trademarks or registered trademarks of the corresponding companies.

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System Setting

■ PLC models

The following models marked ☆ (5 models) have been added in order to adapt to PLC's from 31 makers.

The models marked * cannot be set by the UG400/210.

	< Model >	< Calendar >
	FUJI MICREX-F (T-link)	depends on the model
	FUJI MICREX-SX (T-link)	provided
	FUJI MICREX-SX (JPCN1)	not provided
	FUJI FLEX-PC (JPCN1)	not provided
	FUJI MICREX-SX (SX bus)	provided
	FUJI MICREX-F Series	depends on the model
	FUJI MICREX-SX Series	provided
	FUJI MICREX-SX CPU	provided
	FUJI FLEX-PC Series	depends on the model
	FUJI FLEX-PC CPU	depends on the model
	FUJI FLEX-PC COM	provided
	FUJI FLEX-PC (T)	depends on the model
	FUJI FLEX-PC CPU (T)	depends on the model
	MITSUBISHI AnA/N/U Series	provided
	MITSUBISHI QnA Series	provided
*	MITSUBISHI QnH (Q) Series	provided
	MITSUBISHI A CPU port	provided
	MITSUBISHI FX Series	depends on the model
*	MITSUBISHI Net10	provided
	MITSUBISHI QnA CPU port	provided
*	MITSUBISHI QnH CPU port (A)	provided
*	MITSUBISHI QnH CPU port (Q)	provided
*	MITSUBISHI FX Series (A protocol)	provided
*	MITSUBISHI AnA/N/U (JPCN1)	provided
*	MITSUBISHI FX2N Series	provided
*	MITSUBISHI FX1S Series	provided
*	MITSUBISHI A Series CC-Link	provided
*	MITSUBISHI QnA CC-Link	provided
*	MITSUBISHI QnH (Q) Series CC-Link	provided
*	MITSUBISHI QnA Series (Ethernet)	provided
*	MITSUBISHI QnH (Q) Ethernet	provided
	OMRON SYSMAC C	depends on the model
*	OMRON SYSMAC C (JPCN1)	depends on the model
	OMRON SYSMAC CV	provided
*	OMRON SYSMAC CS1	provided
*	OMRON SYSMAC CS1 DNA	provided
	SHARP JW Series	provided
	SHARP JW100/70H COM port	provided
	SHARP JW20 COM port	provided
*	SHARP JW (FL-Net)	provided
	HITACHI HIDIC-H	provided
	HITACHI HIDIC-S10/2α	not provided
	HITACHI HIDIC-S10/ABS	not provided
*	HITACHI HIDIC-S10 (JPCN1)	not provided
	MATSUSHITA MEWNET	depends on the model
	YOKOGAWA FA500	provided
	YOKOGAWA FA-M3	provided
*	YOKOGAWA FA-M3/FA-M3R (Ethernet)	provided

*	YOKOGAWA FA-M3R	provided
*	YOKOGAWA FA-M3R (FL-Net)	provided
	YASUKAWA Memo-bus	depends on the model
*	YASUKAWA CP9200SH/MP900	not provided
	TOYOPUC	provided
	KOYO SU/SG	provided
	KOYO SR-T	provided
*	KOYO SR-T (K protocol)	not provided
*	KOYO SR-T (K-Sequence)	provided
	A.B PLC-5	not provided
	A.B SLC500	provided
	A.B Micro Logix 1000	not provided
☆*	A.B Control Logix	not provided
	GE Fanuc 90 Series	not provided
	GE Fanuc 90 Series (SNP-X)	not provided
	TOSHIBA T Series	provided
*	TOSHIBA MACHINE TC200	provided
*	SIEMENS S5	not provided
*	SIEMENS S7	not provided
*	SIEMENS S7 PROFIBUS-DP	not provided
	SIEMENS S5 UG400 compatible	not provided
	SIEMENS TI500/505	provided
	SIEMENS TI500/505 (UG400 compatible)	provided
	SIEMENS S7-200 PPI	provided
*	SIEMENS S5 PG port	not provided
*	SIEMENS S7-300MPI (HMI ADP)	not provided
*	SIEMENS S7-300MPI (PC ADP)	not provided
	SHINKO SELMART	provided
	SAMSUMG SPC Series	not provided
*	SAMSUMG N-Plus	provided
*	SAMSUMG SECNET	depends on the model
	KEYENCE KZ Series	not provided
	KEYENCE KZ-A500 CPU port	provided
*	KEYENCE KV Series	not provided
*	KEYENCE KZ24/300 Series CPU	not provided
*	KEYENCE KV10/24 Series CPU	not provided
☆*	KEYENCE KV7000 Series CPU	provided
	LG MASTER-K10/60/200	not provided
	LG MASTER-K500/1000	not provided
*	LG LGMKX00S	not provided
*	LG MASTER-KxxxS CENT	not provided
*	LG GLOFA CENT	not provided
	FANUC Power Mate	not provided
	FATEK AUTOMATION FACON FB Series	provided
	IZUMI IDEC MICRO3	provided
*	MODICON Modbus RTU	depends on the model
*	YAMATAKE MX Series	provided
*	TAIAN Electric Co., Ltd. TP02	provided
*	SAIA PCD	provided
*	MOELLER PS4	not provided
☆*	Telemecanique TSX Micro	not provided
*	Automationdirect Direct LOGIC	provided
*	Automationdirect Direct LOGIC (K-Sequence)	provided
☆*	VIGOR M Series	depends on the model
☆*	DELTA DVP Series	not provided
*	General-purpose FL-Net	not provided
	General-purpose serial	

■ Printing Bit Samples in Displayed Format

This does not apply to the UG400/210.

Printing bit sampling data causes all data stored in the buffer including ON/OFF conditions to be printed. From the next version, selecting [Print out the data of bit sampling with the display type] allows printing only the data of the current display format.

◎ **Setup procedure:**

① Update the main program.

② Select [System Setting], [Others...], [Others/P3], and then [□Print out the data of bit sampling with the display type].

■ Converting DIO Input Memory Bits

This does not apply to the UG400/210.

For PLC with special bit assignments (see the description below), bit conversion should be carried out inside the POD. Currently, bit conversion is not carried out for the DIO input memory and done for the DIO output memory, therefore, the bit assignment image is different between input and output.

From the next version, selecting [Convert DIO Input Memory to bit memory] causes bit conversion to be carried out also for the DIO input memory.

Set [DIO input Mem] and [DIO output Mem] by selecting [Others/ P2] from [System Setting].

* Currently supported PLC models that require bit conversion

Fuji MICREX-F (other than T-LINK I/O memory):	Bit weight inverted
Hitachi HIDIC-S10 α (other than JPCN-1 I/O memory):	Bit weight inverted
SIEMENS S5 Series (only device memory at byte address):	Byte weight inverted
SIEMENS S7 Series (only device memory at byte address):	Byte weight inverted

◎ **Setup procedure**

Select [System Setting], [Others...], [Others/P3], and then [□Convert DIO Input Memory to bit memory].

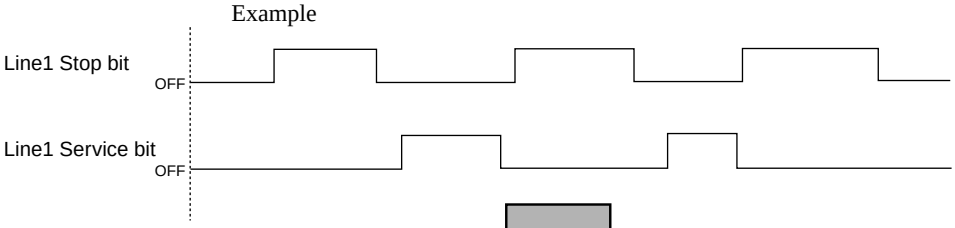
About Sampling Mode

■ Alarm Display (UG□20 Only)

This does not apply to the UG400/210.

◎ Two functions have been added to alarm display:

① Selecting whether or not to store message for each bit
This function enables to select whether or not to store the alarm message depending on its severity.
Example



When Line1 Stop and Line1 Service bits are set to [Memorize].

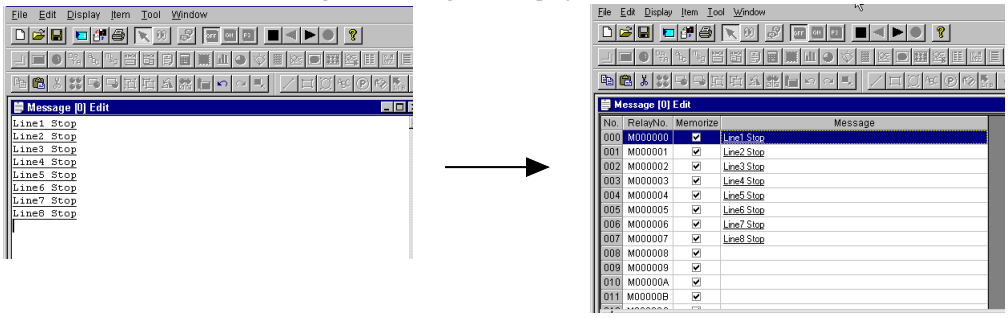
Line1 Stop	15 : 42 : 20	15 : 43 : 50
Line1 Service	15 : 43 : 59	15 : 44 : 10
Line1 Stop	15 : 44 : 20	15 : 45 : 50
Line1 Service	15 : 46 : 00	15 : 46 : 20
Line1 Stop	15 : 46 : 30	15 : 47 : 20

When [Memorize] is not selected for the Line1 Service bit, the history of the Line1 Service bit is not saved. In this case, the following display will not appear:

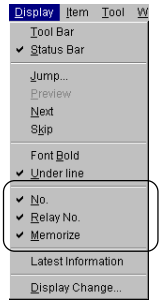
	Occurrence time	Reset time
Line1 Stop	15 : 42 : 20	15 : 43 : 50
Line1 Stop	15 : 44 : 20	15 : 45 : 50
Line1 Stop	15 : 46 : 30	15 : 47 : 20

◆ Setup procedure

From the [Message Edit] window, select [Display] and click [Display Change...] to change the display.



By selecting [No.], [Relay No.], and [Memorize] from [Display], whether or not to display the line numbers, relay numbers, and stored messages can be set.



◆ Acquiring alarm memory information

The number of the message used for alarm display with [Memorize] set OFF can be read with macro command SYS (GET_BUF).

- [SYS (GET_BUF) F1]

  Reads the alarm memory information.

Available devices

	Internal memory	PLC memory	Constant	Memory card	Indirect specification	W-word
F0	Command name					
F1	○				○	

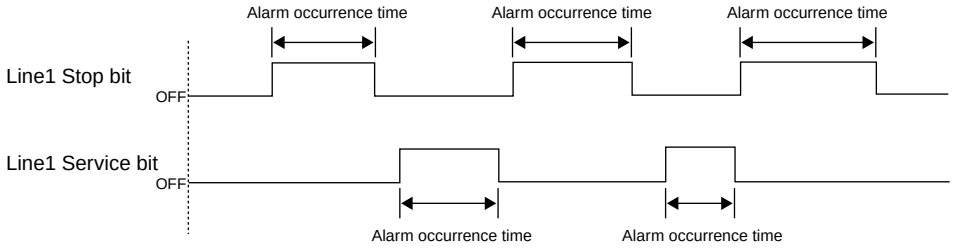
GET_BUF:Alarm mask information read SYS(GET_BUF) F1

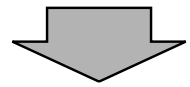
F1+0	Message group No.
F1+1 ≀ F1+16	Alarm mask information (related to each message line) (← UG) F1+1 Bit 0: 0'th line of message Bit 1: First line of message Bit 2: Second line of message ≀ F1+16 Bit 15: 255th line of message

Setting a message group No. in memory F1+0 causes to store the message No. masked to F1+1 through F1+16.

② Displaying alarm occurrence time

Displaying alarm occurrence time as the time information attached to the error message.





Alarm occurrence time

Line1 Stop	0 : 1 : 30
Line1 Service	0 : 0 : 11
Line1 Stop	0 : 1 : 30
Line1 Service	0 : 0 : 20
Line1 Stop	0 : 0 : 50

◆ Setup procedure

From the [Alarm Display] dialog, select [Display Mode] and then [Occurrence Time Display].

About Macros (Applicable to UG□20 Only)

■ Adding Macro Commands

◎ Bar code printer MR400 Series (See page 9.)

Command name	Description
MR_REG	Executes MR400 format table registration set number. MR_REG F0
MR_OUT	Executes MR400 format table call set number. MR_OUT F0

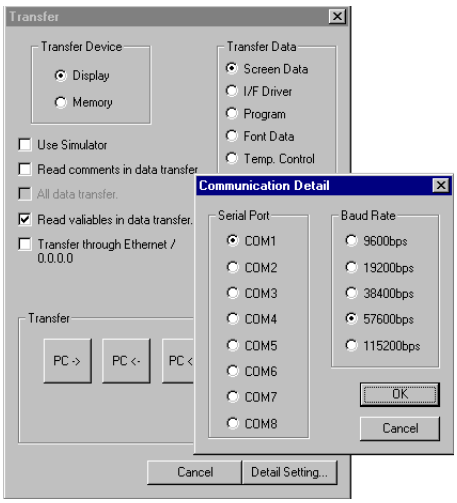
◎ SYS command

Command name	Description
GET_BUF	Alarm function. SYS (GET_BUF) F1 (See page 4.)

Transfer

■ Adding communication port

To enable transfer to/from the editor (US00S-CW) side, set the communication ports on the personal computer (PC). Available communication ports were COM1 to COM4, but COM1 to COM8 are now available.



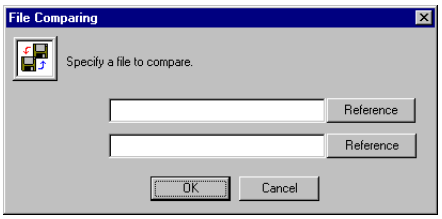
File Management

■Comparing Files

This function compares the screen data with the file and displays the results.
Note that the UG□20 and UG400/210 screen data files cannot be compared.

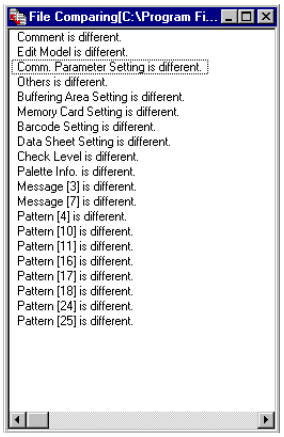
◎ **Setup procedure**

① From [File], select [File Managing] and click [File Comparing...] to open the [File Comparing] dialog.



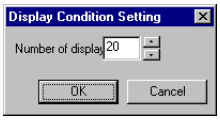
② Click [Reference] and specify the files to be compared.
Clicking [OK] starts the comparison.

③ The comparison results are listed in the [File Comparing] dialog like the one shown in the right. When all comparison data have matched, [Data corresponds] appears.


File Comparing[C:\Program Fi...
Comment is different.
Edit Model is different.
Comm. Parameter Setting is different.
Others is different.
Buffering Area Setting is different.
Memory Card Setting is different.
Barcode Setting is different.
Data Sheet Setting is different.
Check Level is different.
Palette Info. is different.
Message [3] is different.
Message [7] is different.
Pattern [4] is different.
Pattern [10] is different.
Pattern [11] is different.
Pattern [16] is different.
Pattern [17] is different.
Pattern [18] is different.
Pattern [24] is different.
Pattern [25] is different.

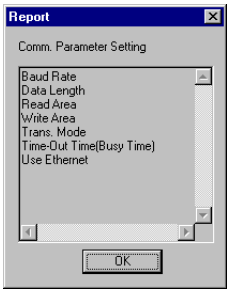
④ About the menu

- Only the items specified in [Save to TEXT file...] selected from [File] are saved in the text file (*.txt).
- Clicking [Display Condition Setting...] from [Display] causes the [Display Condition Setting] dialog to appear.



(Number of display] (10 to 100) (default: 20)
Errors of the specified number are listed in the [File Comparing] dialog.

- Only for the error items that have details, the results are displayed in the [Report] dialog.
  The [Report] dialog can be displayed in one of the following ways:



  - Selecting [Detail] from [Display] in the menu.
  - Selecting [Detail] from the menu displayed by right-click.
  - Return

Using Satoh's MR400 Series Barcode Printer (Applicable to UG□20 Only)

When Satoh's MR400 Series Barcode Printer is connected to the POD, bar code can be printed.

Before using this function, be sure to read and understand the User's Manual and Command Reference Manual for the Satoh's MR400 Series Barcode Printer.

■ Connecting Cables

For connecting the MR400 Series printer to the POD, use Fuji Electric's printer cable UG00C-C (2.5m) for parallel interface.

■ Using Memory Card

◎ **This function requires a memory card installed on the MR400 Series printer. For available memory cards and memory card installation procedure, refer to the MR400 Series User's Manual.**

Memory card formatting is analogous to floppy disk initialization.

◎ **Specifying card slot number and formatting memory card**

Before using a memory card, specify the number of the slot to insert the memory card and format the memory card.

① Check that the MR400 Series printer power is OFF and insert the memory card to the card slot on the MR400 Series printer rear panel.
② While pressing the LINE key on the MR400 Series printer front panel, set the power switch ON.
③ When "USER MODE" is displayed on the front panel, simultaneously press the LINE and FEED keys. When "ADVANCED MODE" appears, press again the LINE and FEED keys simultaneously. Then, "CARD MODE" appears.
④ Press the FEED key until "CARD DRIVE NO/ 1 2" appears on the display as shown in the right. Now, set the card drive number. (Use the LINE key for selecting and the FEED key to confirm.) The drive number set here is used as the memory card slot number.
⑤ Using the FEED key, set the items up to "CARD FORMAT" as shown in the right. For "CARD FORMAT/ YES NO," select YES to start formatting. Formatting completes if no error messages appear.
⑥ Set the printer power switch OFF to exit CARD MODE.

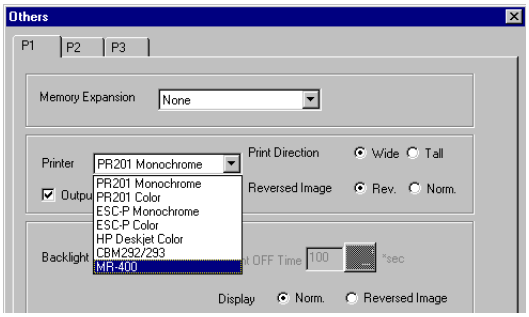
◎ **When registration or change has been made by [MR400 Format Table (Register Setting)] described later, formatting is necessary.**

◎ Formatting memory card from POD

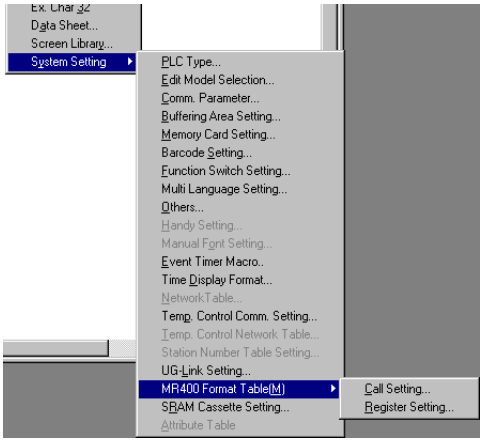
By outputting an MR400 Series control command from the POD, the memory card can be formatted. (See page 15.)

■ Setting in UG00S-CW

1. From [Item], select [System Setting], [Others...], [Others/P1], [Printer], and then [MR-400].



2. [Register Setting] and [Call Setting] selected from [Item], [System Setting], and [MR400 Format Table (M)], allow registering and setting a command group. For details, see “Format Table” in the next page.



3. For printing with an external command, set the following:
   From [System Setting], select [Others...], [Others/P3], and then [MR400 I/F Memory].
   This memory has the following configuration:

MR400 I/F memory + 0	Control memory Printing by setting “1” in bit 0.
MR400 I/F memory + 1	Memory specified by format table number (Call setting: 1 to 256)

   When I/F memory bit 0 is set ON, the contents of the specified format call set number are printed. After printing is over, this bit is automatically set OFF for preparing for the next printing.
   The format call set number can also be specified with macro MR_OUT for printing. (See pages 15 and 16.)

Format Table

The format table allows setting the format of data input to MR400, including the number of print columns, print position, print character type, bar code, etc.

Using a combination of MR-400 Series commands enables printing in flexible format. In UG00S-CW, the format tables for setting this command group are [Register Setting] and [Call Setting].

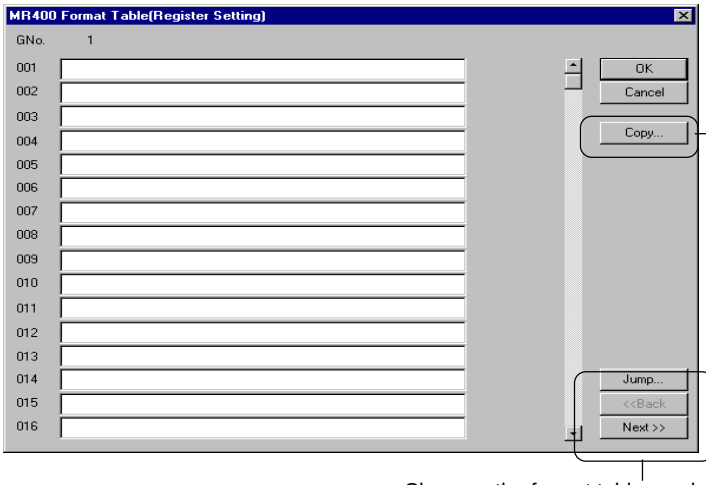
◆ **[Register Setting] (1 to 128)**

Use [Register Setting] for registering a format. Once a format is registered, it can be used from the next time without specifying the same command group.
For formatting and registering the memory card installed in the MR400 Series printer, use macro MR_REG (see page15).

Setup procedure

① From [System Setting], select [MR400 Format Table (M)] and click [Register Setting...] to display the [MR400 Format Table (Register Setting)].

② Specify the number to be set and click [OK].
Then, [MR400 Format Table (Register Setting)] like the one shown below appears.



Changes the format table number.

Copies the open format table to the specified copy destination number.

③ For example, for registering the format shown below, enter as shown on the next page.

<A>
<Specifies starting data transmission>
<CC> 2
<Specifies the card slot to be used> Slot number
<YS>, 10
<Specifies format registering>, Format registration number
</N>, 1, 10
<Specifies field registration>, Field number, Number of print columns

We recommend to make it the same as the registration set number.

<V> 10 <H> 50
<Specifies the vertical print position> Number of dots <Specifies the horizontal print position> Number of dots
<B> 2 02 080 1 2 3 4 5 6 7 8 9 0
<Specifies bar code> Bar code type, Bar width magnification ratio, Top and bottom sizes of bar (dots), Data

Data to be registered in field 1

</N>, 2, 5

<V> 100 <H> 50 <L> 0 2 0 2 <P> 2

<X22>, 1 2 3 4 5
<Specifies X22 characters>, Data

Data to be registered in field 2

</N>, 3, 6

<V> 200 <H> 300 <L> 0101 <P> 2

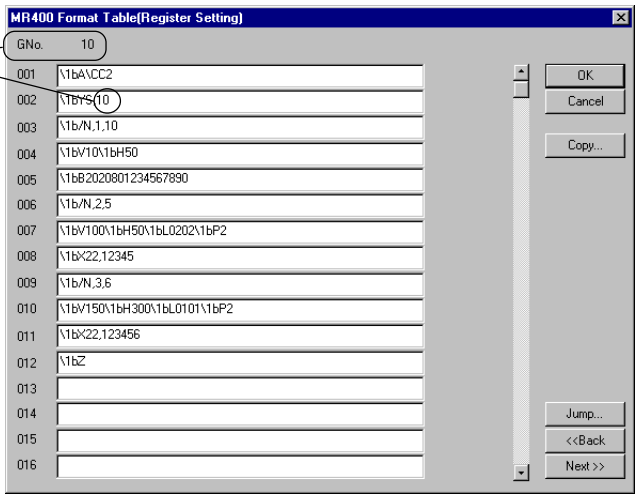
<X22>, 1 2 3 4 5 6

Data to be registered in field 3

<Z>
<Specifies end of data transmission>

◇ Description format in format table

We recommend to make these the same.



The escape characters (ESC) to be placed at the beginning of the escape sequence should be “1B (H)” in hexadecimal (HEX) enclosed in <> for the MR400 Series printer.
In the format table, the HEX data should be preceded by “\.” For example, “1B” should be written as “\1B.” When writing character \ itself, it should be written as “\\.”

(Example)
<X22>,12345
1BX22,12345
\1BX22,12345

When registration setting has been changed, the memory card should be reformatted.

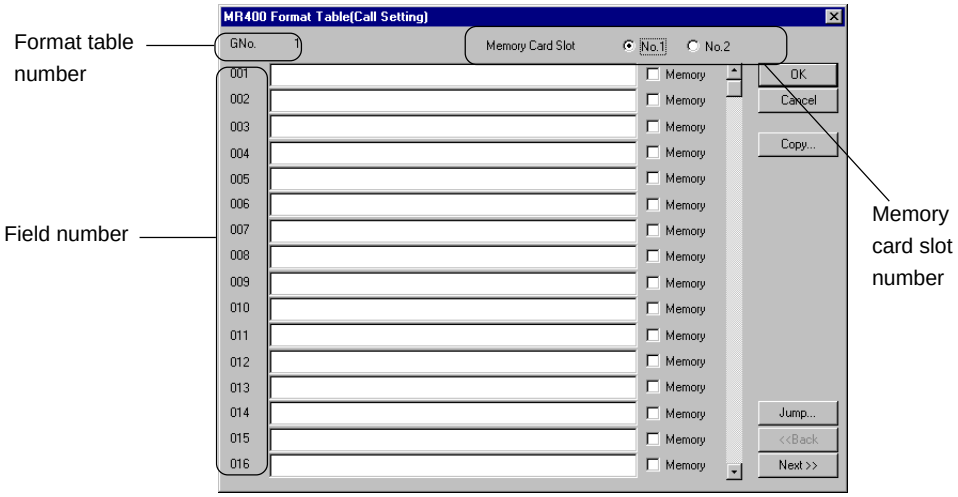
◆ [Call Setting] (1 to 128)

Calls the format registered by [Register setting], allowing to change the print contents for individual field numbers. When printing, use macro [MR_OUT] (see page 15) or [MR400 I/F memory] (see page 10).

Setup procedure

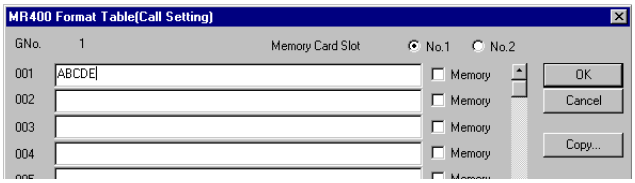
① From [System Setting], select [MR400 Format Table (M)] and click [Call Setting] to display the [MR400 Format Table...] dialog.

② Specify the same number as the [MR Format Table (Register Setting)] number to be used and click [OK].
Then, the [MR400 Format Table (Register Setting)] like the one shown below appears.



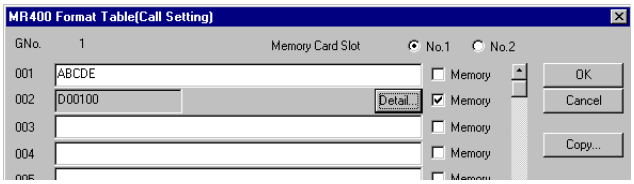
③ In the space next to the field number, enter the data to be printed.
<When printing fixed text>
Enter the data directly to the related field number. The data is converted to ASCII code by POD and output to the MR400 Series printer.

Example: To print “ABCDE” in field No.1, enter “ABCDE” to field No.1.



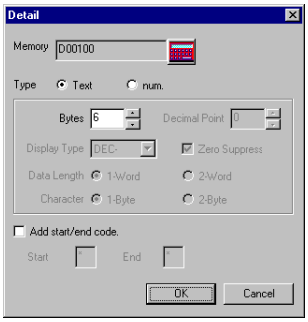
<When printing data stored in memory>
Check [☐ Memory] for the related field No.

[Detail...] button appears.



Clicking the [Detail...] button causes the [Detail] dialog to appear.

◇ Selecting [Text] from [Type]

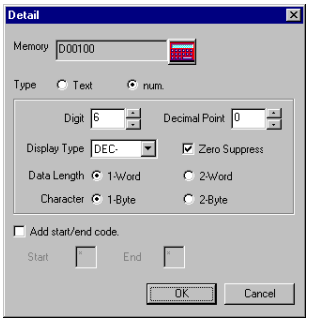


(See the figure in the right.)
Data of the specified number of bytes, beginning with the data at the address specified in [Memory] is sequentially output from the memory.
Example:
To print 1-byte characters “ABCDEF,” specify ASCII code as shown below.

D 100	4241
D 101	4443
D 102	4645

[☐ Add start/end code.]
Set this item when using bar code type CODE39.
☞ See “Bar code type CODE39” in page 16.

◇ Selecting [num.] from [Type]



(See the figure in the right.)
Selecting [num.] causes the BIN data to be converted to text (ASCII) and output.
Example:
When numeric data “0100” (BIN) is contained in D100, it is printed as text “0100” (=“100”).

[Memory]	Prints the contents of the specified memory as numeric data.
[Bytes]	Allows specifying the number of bytes matching the display format. When [Zero Suppress] is checked, suppressed zeros in the specified bytes are padded with spaces.
[Decimal Point]	Specify the number of positions below a decimal point.
[Display Type]	Allows selecting one from DEC-, HEX, OCT, DEC, or BIN. DEC- means a decimal number with a sign.
[Zero Suppress]	Specifies whether or not to suppress zeros.

[Data Length] Specifies the numeric data length (1- or 2-Word).

[Character] Specifies the character size (1- or 2-Byte).
The 2-byte size is allowed only for a kanji field for format registering.

[☐ Add start/end code.]
Set when using bar code type CODE39.

☞ See “Bar code type CODE39” in page 16.

Macros Added for MR400 Series

- [MR_REG]

Available devices

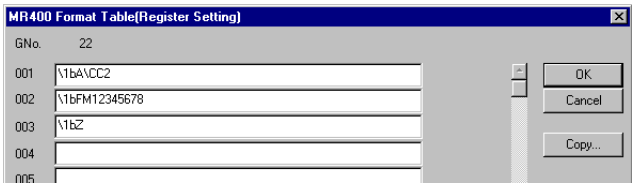
	Internal memory	PLC memory	Constant	Memory card	Indirect specification	W-word
F0	○	○	○	○		

MR_REG: Executes the MR400 format table register set number.

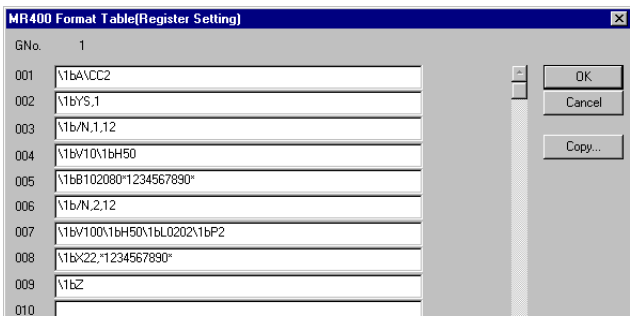
MR_REG F1

Registers the contents of the MR400 format table register set number set by F1 as the MR400 Series format.

Example 1. MR_REG 22
When the command shown below is set in format table register set number 22, the memory card is formatted.



Example 2. When MR_REG1 is set with a switch-ON macro and the command shown below is set in format table register set number 1. Pressing the switch once registers the MR400 Series format. Pressing the switch again causes printing to occur, allowing to confirm the print format.



• [MR_OUT]
Prints the contents of the MR400 format table call set number set by F1.

Available devices

	Internal memory	PLC memory	Constant	Memory card	Indirect specification	W-word
F0	○	○	○	○		

MR_OUT: Executes the MR400 format table call set number.

MR_OUT F1

Example: MR_OUT 50
Prints the contents of MR400 format table call set number 50.

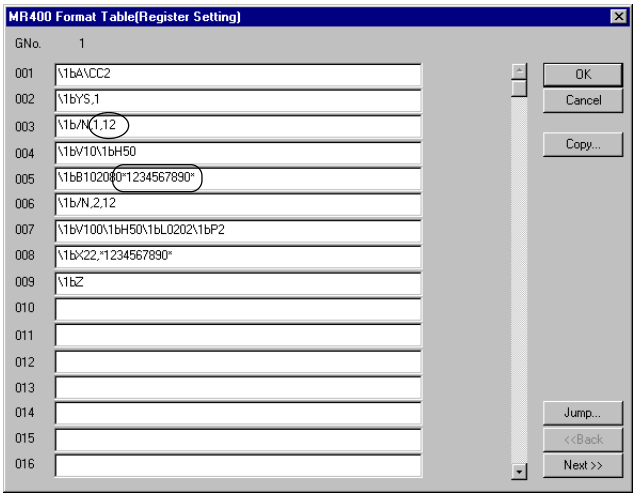
Bar code type CODE39

For bar code type CODE39, the bar code is usually preceded and succeeded by "*."

When using the MR400 Series printer, "*" is processed in two ways:

◎ **Setting [MR400 Format Table (Register Setting)]**

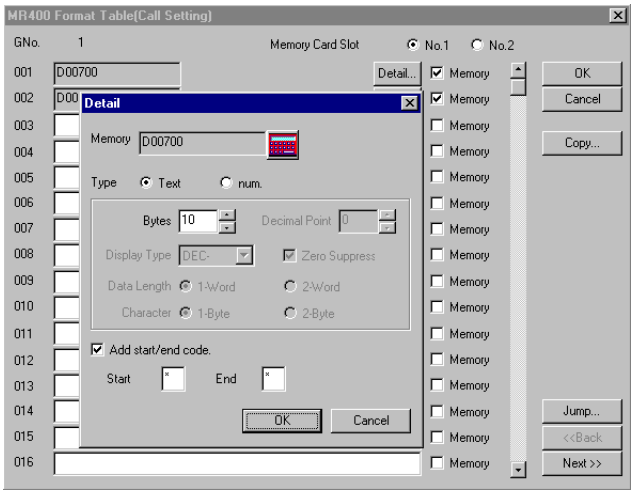
The byte count in the format registration specification includes "*."
For example, in the case shown below, 12 positions (10+2) are set.



◎ Setting [MR400 Format Table (Call Setting)]

◇ Selecting [Text] from [Type]

(See the figure in the right.)



[Bytes]

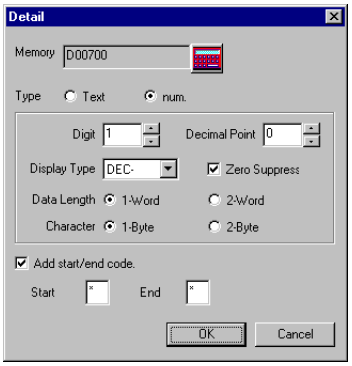
Specifies the byte count including “*.”

[☐ Add start/end code.]

- Checked: When data at [Memory] contains no “*.”
- Unchecked: When data at [Memory] contains “*.”

◇ Selecting [num.] from [Type]

(See the figure in the right.)



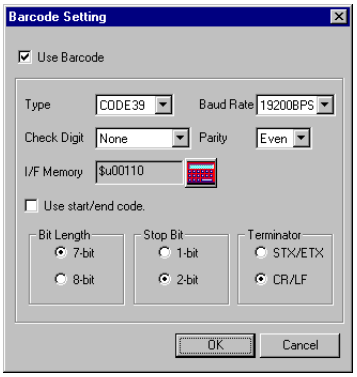
[☐ Add start/end code.]

- Checked: When data at [Memory] contains no “*.”
- Unchecked: When data at [Memory] contains “*.”

◎ **Set how to process "*" when reading bar code with a barcode reader in the procedure given below.**

① Select [Item] and [System Setting] and then click [BarCode Setting...].

② The [Barcode Setting] dialog appears.
When CODE39 is selected from [Type], the [☐ Use start/end code.] item appears.



[☐ Use start/end code.]

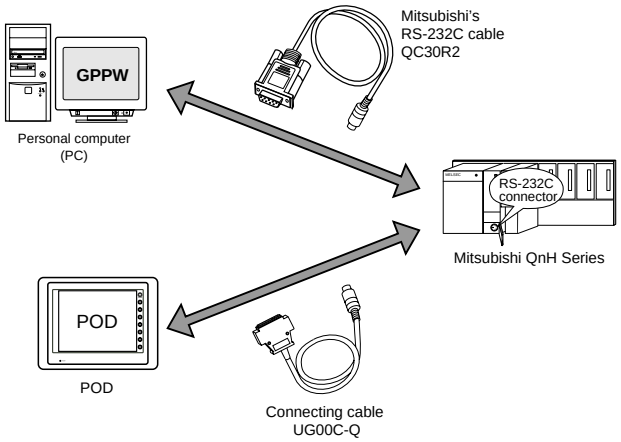
- Checked: Saves data with start/end code in [I/F Memory].
- Unchecked: Saves data without start/end code in [I/F Memory].

Ladder Transfer Function (Applicable to UG□20 Only)

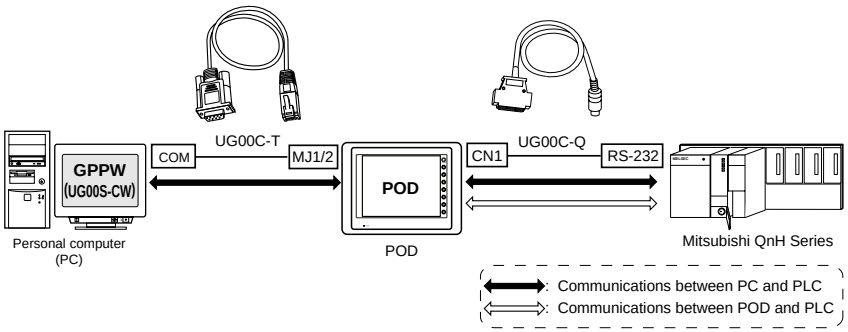
■ Overview

When the POD is directly connected to Mitsubishi's PLC QnHCPU, which has only one RS-232C port, two cables must be disconnected and connected alternately for debugging.

- Using Mitsubishi's RS-232C cable QC30R2 for monitoring PLC contents and writing ladder programs
- Using Fuji's cable UG00C-Q for communications between the POD and PLC



The ladder transfer function allows debugging without disconnecting and connecting the cables. The personal computer (PLC programming software) connected to the POD can be used for writing ladder programs and monitoring the PLC.



■ Applicable PLC

Mitsubishi PLC Q02, Q02H, Q06HCPU port (Q mode)

■ Applicable Models

◎ **Applicable models**

UG221, UG320, UG420, UG520, UG420H-EL

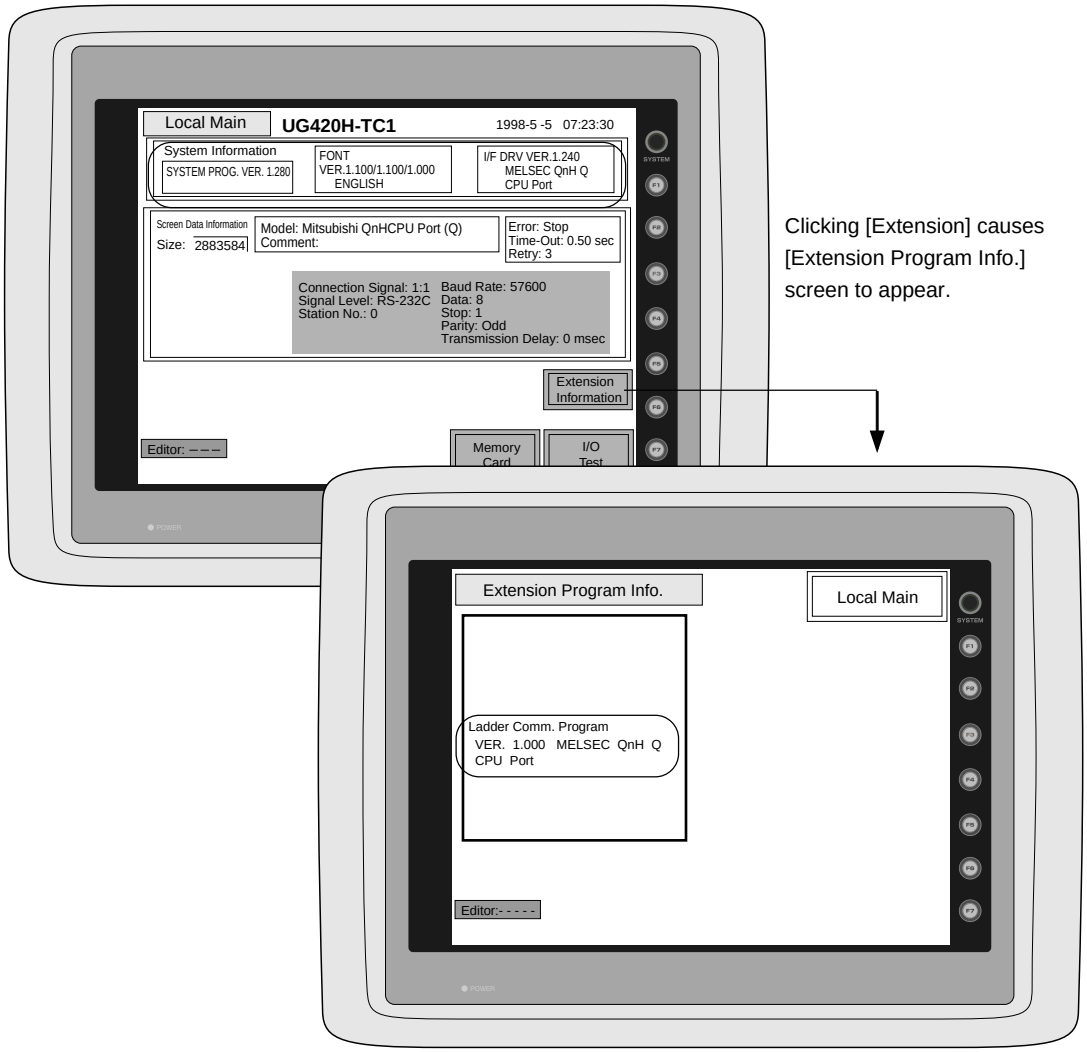
* Unavailable for 1:n communication (multi-drop), multi-link communication, and multi-link 2 communication.

◎ **The following models are not applicable:**

UG220, UG320HD

■ Applicable Versions and Local Main Screen

Applicable programs are given below. They can be confirmed on the [Local Main] screen.

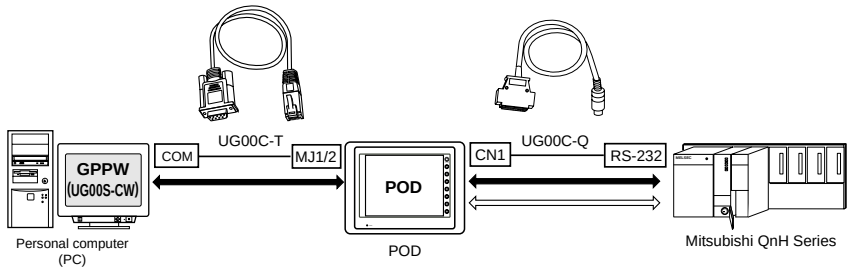


*1. The ladder communication program is the program added by the ladder transfer function. This program is used by the POD at the repeating point when communicating between the personal computer (PLC programming software) and PLC.

■ Connection

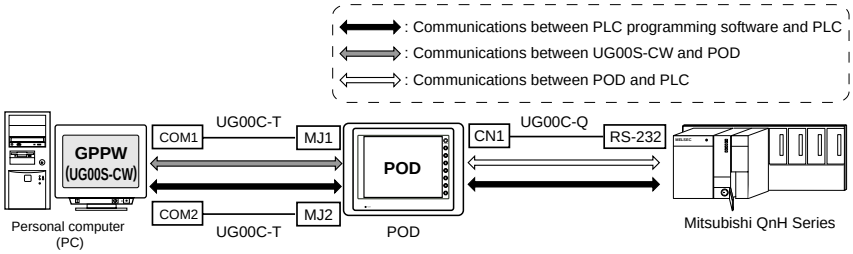
◎ **For connecting between the POD (CN1) and PLC (RS-232C port), use Fuji's UG00C-Q cable.**

◎ **For connecting between the personal computer (PLC programming software) and POD (MJ1/2), use Fuji's UG00C-T cab le.**

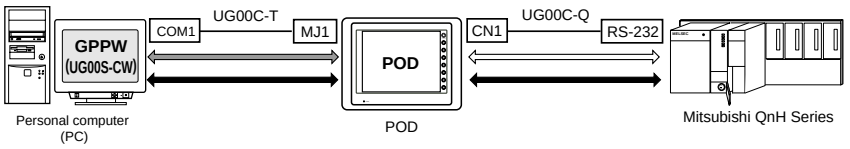


◇ When using UG00S-CW and PLC programming software

• When there are two UG00C-T's available
If the personal computer has two COM ports, use the COM port and cable (UG00C-T) separately for UG00S-CW and PLC programming software.



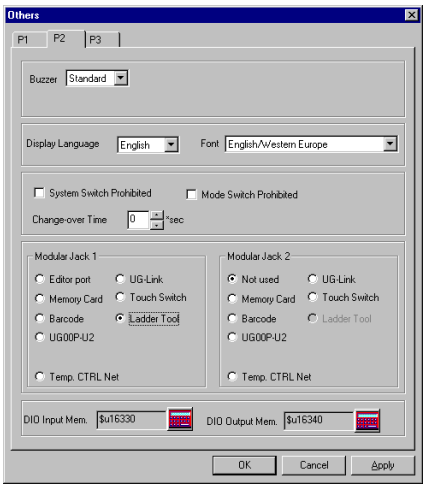
• When there is only one UG00C-T available
One port of the personal computer cannot be shared by UG00S-CW and PLC programming software. One of the communications should be stopped.



■ Setting Procedure and Communications

① Setting PLC type
Select [Item], [System Setting], and [PLC Type...]. From the [Select PLC type] dialog, set [MITSUBISHI: QnHCPU Port (Q)].

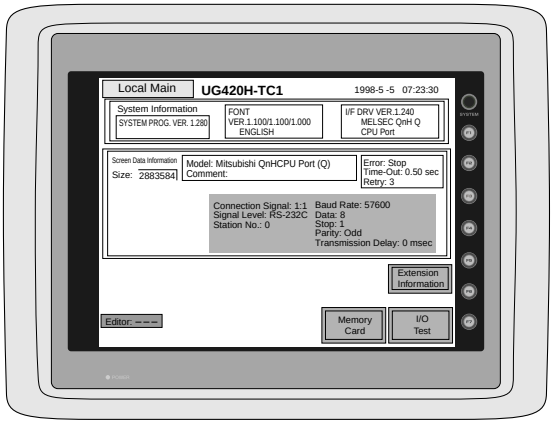
② Setting PLC programming software port
Select [Item], [System Setting], and [Others...]. From the [Others/P2] dialog, set [Modular Jack 1] or [Modular Jack 2] to [Ladder Tool].



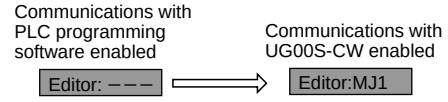
◇ About communications with UG00S-CW (screen data transfer, etc.)

UG00S-CW and POD are not available for online editing. If it is attempted, communications between the PLC programming software and PLC are not carried out normally.

- When [Ladder Tool] has been assigned to MJ2 and the POD is switched to Local Main screen, MJ1 becomes the [Editor Port], enabling communications with UG00S-CW.
- When [Ladder Tool] has been assigned to MJ1 and the POD is switched to Local Main screen, communications with the PLC programming software remain enabled and communications with UG00S-CW are disabled.



To start communications with UG00S-CW, press and hold the F2 key for three seconds. [Editor:---] changes to [Editor:MJ1], enabling communications with UG00S-CW.



When the F2 key is again pressed and held three seconds, [Editor:MJ1] changes to [Editor:---], enabling communications with the PLC programming software.

- States of communications between PLC programming software and PLC during communications between UG00S-CW and POD

UG00S-CW	PLC programming software
Writing to POD	Disconnected (Normal communications after completing writing)
Normal communications	Reading from POD
Collating with POD	Reading from POD

③ Setting communications for PLC programming software

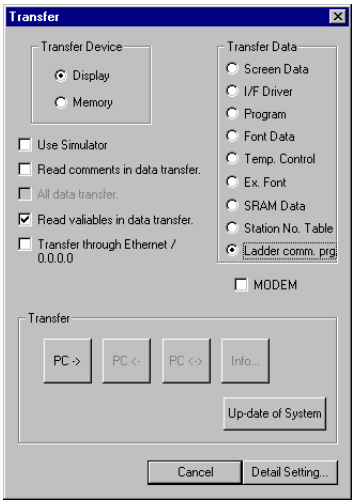
When setting the conditions for communications between the PLC programming software and PLC, use the parameters for communications between the POD and PLC. Check the [Comm. Parameter] dialog, which is displayed by selecting [Item], [System Setting], and [Comm. Parameter...].

◇ About baud rate

The [Baud Rate] value set from [Comm. Parameter] on UG00S-CW may be different from the baud rate of the PLC programming software. When communications with the PLC programming software (monitoring, etc.) have started, the baud rate of the PLC programming software is activated. When the power is set OFF and then set ON, the [Baud Rate] value set from [Communication Parameters] is activated.

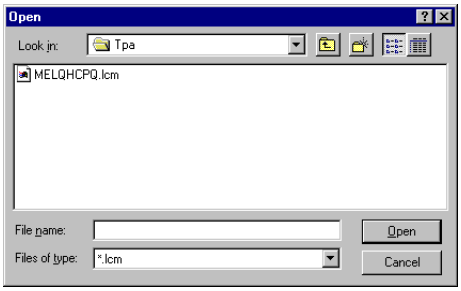
④ Transferring ladder communication program

Normally, when screen data is transferred, the ladder communication program is also transferred. When transferring only the ladder communication program, carry out the procedure given below.



i) From the [Transfer] dialog, select [Ladder comm. program], and click [PC->].

ii) The dialog like the one shown below appears. Select [MelQHCpQ.lcm] and click [Open] to start transfer to the POD.



■ Precautions for Using Ladder Transfer Function

① During communications between POD and PLC, monitor registration is inhibited, lowering the performance than usual.

② During POD running, ladder program transfer is carried out synchronously, lowering the performance of both the POD and PLC programming software than usual.

■ About Ladder Transfer Function Errors

An error number related to ladder transfer appearing on the POD has been added (see page 33).

Transferring Screen Data Using Modem (Applicable to UG□20 Only)

Transmit screen data, etc. from a remote POD using a modem.

■ Preparation and Setup Procedure

◎ Requirements

<<On the receiving side (POD)>>

- Modem (Accessories: RS-232C cable, modular cable, AC adapter)
- UG00C-T
- RS-232C cross cable (See pages 29 and 30.)
- UG00S-CW or communication software (hyper-terminal, etc.)

<<On the transmitting side (PC)>>

- Modem (Accessories: RS-232C cable, modular cable, AC adapter)
- UG00S-CW

◎ Setup procedure

<<On the receiving side (POD)>>

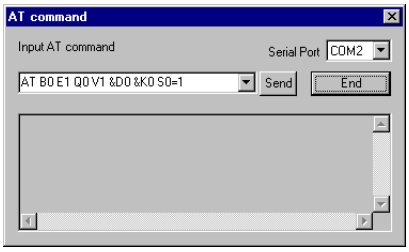
① Make sure that the POD main program and font version are applicable (see page 28).
If not applicable, upgrade them.
② Connect the receiving-side (POD) modem to the personal computer (PC), referring to the User's Manual.
③ Register AT commands to the modem (see the next page).
④ Disconnect the modem from the PC and connect it to the POD (see page 29).
⑤ Set the baud rate for communications between the POD and modem (see page 28).

<<On the transmitting side (PC)>>

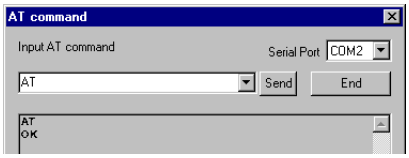
① Connect the transmitting-side (PC) modem to the personal computer (PC), referring to the User's Manual.
② Start UG00S-CW and register AT commands (see the next page).
③ Set conditions for communications between the PC and modem (see page 31).
④ Transmit the POD screen data. (Online editing is disabled.)

■ Setting AT commands

1. Start UG00S-CW and click [Send AT command...] from [File].
   (If there is no UG00S-CW on the receiving side, set the conditions given below using communication software such as hyper-terminal.)
2. The [AT command] dialog like the one shown below appears.



3. Select [Serial Port] from the pull-down menu.
4. Select [AT] from the pull-down menu and click the [Send] button.



5. When [OK] appears as shown above, the modem and personal computer have been normally connected to each other.
6. Transmit the commands given below.
   The set items and their contents may vary depending on the modem. Confirm the set contents, referring to the User's Manual of the modem used.

<<AT command settings on receiving (POD) side>>

Set item	Contents
Set presence or absence of result code	Q0 (presence)
Result code display format	V1 (word format)
Echo back	E1 (presence)
Select communication protocol	B0 (ITU-T protocol definition)
ER signal control	&D0 (ER signal always ON)
Flow control (*1)	&K0 (No flow control)
Number of rings before call terminating	S0=1 (Specify a digit other than 0.)
Writing to nonvolatile memory (*2)	Current operation conditions written to &W0 "STORE PROFILE0."

*1. Never use the XON/XOFF flow control.
*2. This command setting is also necessary to set the modem power OFF after setting the AT commands.

<<AT command settings on transmitting (PC) side>>

Set item	Contents
Set presence or absence of result code	Q0 (presence)
Result code display format	V1 (word format)
Echo back	E1 (presence)
Select communication protocol	B0 (ITU-T protocol definition)
ER signal control	&D2 (Circuit opened by setting ER signal from ON to OFF)
Flow control (*1)	&K0
Writing to nonvolatile memory (*2)	Current operation conditions written to &W0 “STORE PROFILE0.”

*1. Never use the XON/XOFF flow control.
*2. This command setting is also necessary to set the modem power OFF after setting the AT commands.

If the contents of the items above are the same as the modem used, select the command given below from the pull-down menu, and make transmission.

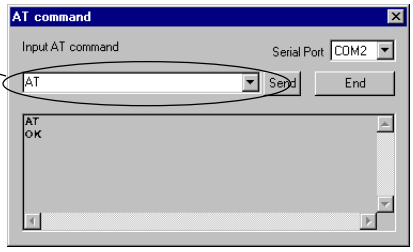
Receiving (POD) side	AT B0 E1 Q0 V1 &D0 &K0 S0=1
Transmitting (PC) side	AT B0 E1 Q0 V1 &D2 &K0

When [OK] appears, transmission has completed normally.

The transmitted settings will be erased when the modem power is set OFF. Therefore, select “AT&W0” from the pull-down menu and make transmission. When [OK] appears, transmission has completed normally.

If the contents of the items above are not the same as the modem used, delete the described AT commands, directly input the correct AT commands confirmed referring to the User’s Manual of the modem used, and then make transmission.

Input AT command directly here.

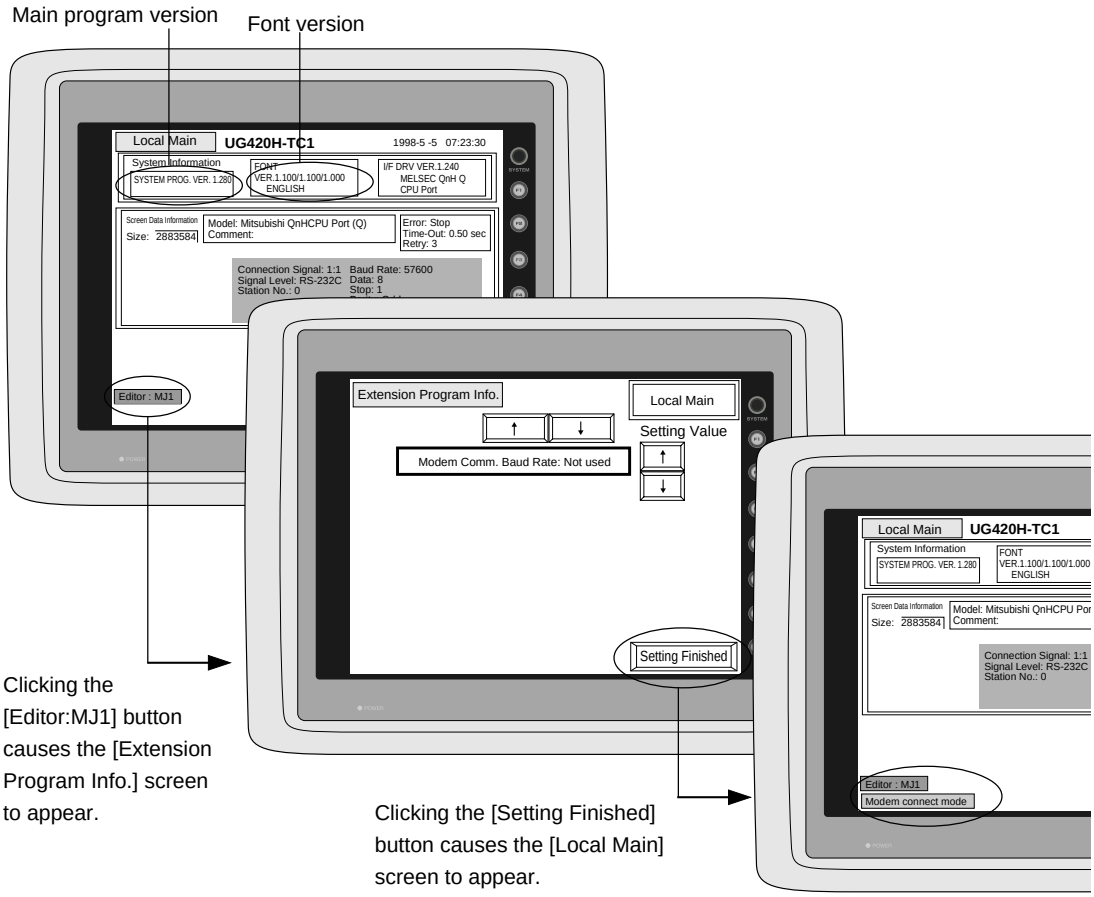


7. Now, AT command setting has completed.

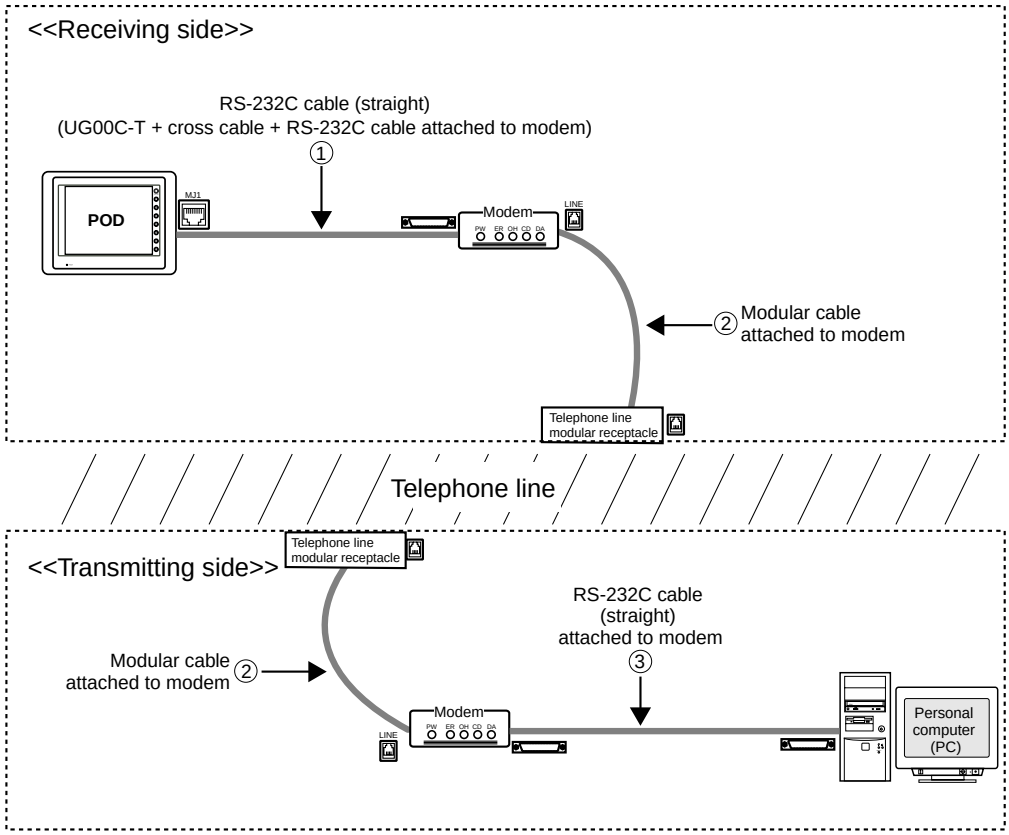
■ Setting POD Main Unit

1. Using the [Local Main] screen, confirm the versions below.
   Main program: SYSTEM PROG. Ver. 1.280 and up
   Font: FONT VER. 1.100/1.100/1.000 and up
2. Set the baud rate for communications between the POD and modem.
   ① On the [Local Main] screen, click [Editor:MJ1] to display [Extension Program Info.].
   ② Using the [↑] and [↓] buttons for [Settimg Value], select the modem communication baud rate and click the [Setting Finished] button to complete setting.
   (Selectable range: 4800, 9600, 19200, 38400, 57600, 115200)
   * For 15 seconds after clicking the [Setting Finished] button, the switches on the [Local Main] screen and the function switches are inactive.
   ③ The [Local Main] screen appears automatically, with [Modem connect mode] displayed below [Editor:MJ1].
   ④ For transferring the screen data without using the modem, set the modem communication baud rate to [Not used].
   For transferring the screen data by connecting the personal computer and UG00C-T to each other, the modem communication baud rate should be set to [Not used].

Clicking the [?Set Complete?] button immediately transmits the AT commands to the modem and sets the baud rate for communications between the POD and modem.



■ Connection



① Connection between POD and modem

- Connect MJ1 on the POD rear panel to UG00C-T.
- Connect the RS-232C cable attached to the modem to the RS-232C connector on the modem rear panel.
- For connecting the RS-232C cable attached to the modem to UG00C-T, use a cable purchased on the market.

<<Cross cable connection diagram>>

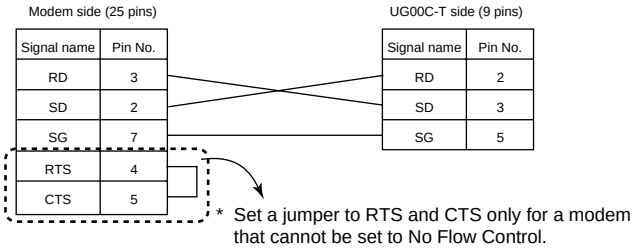
UG00C-T is a cross cable. Make a cross cable to return it to straight.

◇For 9-pin modem

Modem side (9 pins)		UG00C-T side (9 pins)	
Signal name	Pin No.	Signal name	Pin No.
RD	2	RD	2
SD	3	SD	3
SG	5	SG	5
RTS	7		
CTS	8		

* Set a jumper to RTS and CTS only for a modem that cannot be set to No Flow Control.

◇For 25-pin modem



② Connecting modem to telephone line

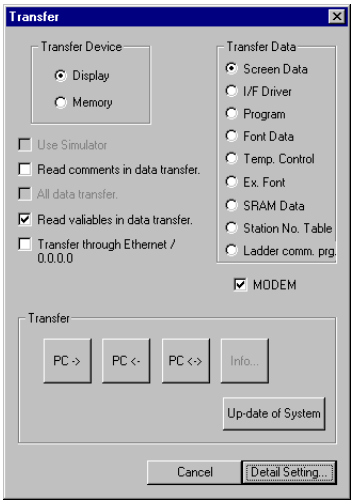
Connect the telephone line modular jack (LINE) on the modem rear panel to the telephone line modular receptacle using the modular cable attached to the modem. If the modular cable attached to the modem is too short, extend the cable using a modular cable and repeating connector available on the market. Note that extending the cable to tens of meters or more will cause troubles in data transmission and reception.

③ Connecting modem to personal computer

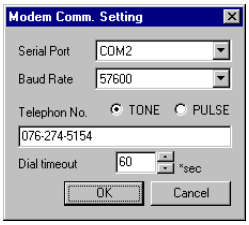
Connect the RS-232C connector on the modem rear panel to the personal computer RS-232C connector using the RS-232C cable attached to the modem.

Transmitting Screen Data

1. Start UG00S-CW and open the screen file to be transmitted.
2. From [File], click [Transfer].
3. The [Transfer] dialog like the one shown below appears.



4. Check [☐ MODEM] and click the [Detail Setting...] button.
5. The [Modem Comm. Setting] dialog like the one shown below appears.



[Serial Port] (COM1 to COM8)

Set the communication port.

[Baud Rate] (9600, 19200, 38400, 57600)

Set the speed of communications between the personal computer and modem.

[TONE/PULSE]

Select the type of the telephone line from TONE (push type) or PULSE (dial type).

[Telephone No.]

Set the telephone number of the distant party.

[Dial timeout] (sec)

Set the timeout period to wait for a response from the distant party. The default value is 60 sec.

6. After setting the [Modem Comm. Setting] dialog, click [OK] to return to the [Transfer] dialog.
7. From [Transfer], click [PC->] to start transmitting the screen data.

Note:

When the screen data is transmitted using the modem function while the [Local Main] screen is being displayed, [Transferring Data] appears in the lower-left corner of the screen and it disappears upon completion of the transmission. For approximately 15 seconds after [Transferring Data] disappears, the switches on the [Local Main] screen and the function switches are inactive.

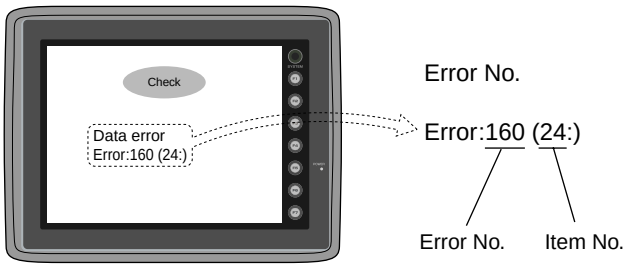
■ Transfer Errors Displayed on UG00S-CW

The following transfer errors displayed on UG00S-CW have been added together with the modem function:

Error messages	Meanings and reactions
No responses from distant party.	- Check the distant party if the power is ON, the line is connected, and so on. - A timeout may have occurred before receiving the response. Extend the dial timeout period.
Line is disconnected.	The telephone of the distant party has been rung OFF.
Command error	The transmitted command is not applicable to the modem of the distant party.
The distant party line is busy.	The distant party line is busy.
The telephone number has not been set.	Set the telephone number.
No dial tone has been detected.	NO DIAL TONE has been returned.

Error Display

For “Check” errors like the one shown below, a new error number has been added.



Related function	UG□20	UG400/210	Error No.	Meanings	Reactions
Ladder trans-mission	◎	×	170	Though [Ladder Tool] has been selected from [Modular Jack 1] or [Modular Jack 2] on the screen, the POD main unit has no ladder communication program.	When not carrying out ladder transfer, uncheck [Ladder Tool] for [Modular Jack 1] or [Modular Jack 2]. When carrying out ladder transfer, transfer the ladder communication program MelQHCpQ.lcm to the main unit.
	◎	×	171	The PLC model set from the screen does not match the ladder communication program model.	Transfer the ladder communication program of the PLC model set from the screen (applicable only to Mitsubishi QnHCPU port (Q)).
	◎	×	172	This error occurs when the ladder communication program is being stored, but no [Ladder Tool] has been set for both of MJ1 and MJ2 from the screen.	Set [Ladder Tool] for one of MJ1 or MJ2 from the screen.
	◎	×	173	This error occurs when [Modular Jack 1] or [Modular Jack 2] has been set to [Ladder Tool] from the screen and [Connection] of [Comm. Parameter] has been to a value other than 1:1. (Ladder transfer is only available for 1:1.)	When not carrying out ladder transfer, uncheck [Ladder Tool] for [Modular Jack 1] or [Modular Jack 2]. Thus, communications in the set connection type are enabled. When carrying out ladder transfer, set [Connection] of [Comm. Parameter] to 1:1.
	◎	×	174	This error occurs if the I/F driver is UNIPLC even when the PLC model set for ladder transfer from the screen matches the ladder communication program model code. (No simulator is available for ladder transfer.)	When transferring the screen data, uncheck [Use Simulator for transfer dialog]. Transfer the I/F driver of the PLC applicable to ladder transfer set by the editor from the screen (applicable to Mitsubishi MelQHCpQ.tpb Versions 1.240 and up).

◆ **Error No. (See the table below.)**

Besides the error numbers listed above, there is an error number given below, which does not normally appear.
If this error number should appear, please contact Technical Support.

◆ **Error No.**

*94: Text count error for language setting

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Information in this manual is subject to change without notice.